

WHAT IS CLAIMED IS:

1           1.    An isolated bacterium as deposited as ATCC No.  
2    PTA-2500.

1           2.    An isolated bacterium comprising the following  
2    characteristics: Gram negative, bacilliary, about 0.2X0.8  
3     $\mu\text{m}$ , facultative anaerobe, grows between 15° and 45°C with a  
4    temperature optimum of 37°C, grows between pH 4-11 but not  
5    at pH 2, grows in AB13 medium or minimal medium, is motile,  
6    lacks a capsule, lacks spores, and produces an elastic,  
7    exopolysaccharide with a sugar content of galactose, fucose,  
8    glucose, mannose in a ratio of about 1:2:3:6.

1           3.    The isolated bacterium of claim 2, further  
2    comprising the characteristics of an antibiotic sensitivity  
3    profile as in Table 2, a biochemistry profile as in Table 3,  
4    and a carbon utilization profile as in Table 4.

1           4.    The isolated bacterium of claim 3, further  
2    comprising , the total protein SDS-PAGE profile of the LAB-1  
3    strain of FIGURE 2 and FIGURE 3.

1           5. The isolated bacterium of claim 4, further  
2 comprising the characteristics of a 16S rRNA gene of SEQ ID  
3 NO: 1.

1           ~~6.~~ An isolated bacterium comprising the 16S rRNA gene  
2 of SEQ ID NO: 1.

1           ~~7.~~ An isolated bacterium that produces an  
2 exopolysaccharide consisting essentially of neutral sugars  
3 migrating at the same rate as mannose, fucose, fructose and  
4 galactose, acidic sugars migrating at the same rate as  
5 fucose and amine sugars migrating at the same rate as  
6 glucose and fucose, wherein the sugar ratio of  
7 galactose:fucose:glucose:mannose is about 1:2:3:6.

1           8. The isolated bacterium of claim 7, further  
2 comprising the 16S rRNA gene of SEQ ID NO: 1.

1           ~~9.~~ An exopolysaccharide consisting essentially of  
2 neutral sugars migrating at the same rate as mannose,  
3 fucose, fructose, and galactose, acidic sugars migrating at  
4 the same rate as fucose and amine sugars migrating at the

5 same rate as glucose and fucose, wherein the sugar ratio of  
6 galactose:fucose:glucose:mannose is about 1:2:3:6.

1 10. An exopolysaccharide produced by the LAB-1 strain  
2 at ATCC No. PTA-2500.

1 11. An exopolysaccharide produced by the bacterium of  
2 claims 1-8 .

1 12. The exopolysaccharide of claim 11, for use as a  
2 nutrient supply for plant or animal growth.

1 13. The exopolysaccharide of claim 11, wherein the  
2 exopolysaccharide is purified and used as a food or drug  
3 additive.

1 14. The exopolysaccharide of claim 11, wherein the  
2 exopolysaccharide is purified and used as a plasma extender.

1 15. The exopolysaccharide of claim 11, for a use  
2 selected from the group consisting of viscosity modifier,  
3 adhesive, filler, extender, expander, and biostat.

1        ~~16.~~ A biofilm, comprising an exopolysaccharide  
2        consisting essentially of neutral sugars migrating at the  
3        same rate as mannose, fucose, fructose and galactose, acidic  
4        sugars migrating at the same rate as fucose and amine sugars  
5        migrating at the same rate as glucose and fucose, wherein  
6        the sugar ratio of galactose:fucose:glucose:mannose is about  
7        1:2:3:6.

1        17. The biofilm of claim 16, which is produced by the  
2        bacterium of claims 1-8.

1        18. A plasma expander comprising a purified  
2        exopolysaccharide consisting essentially of neutral sugars  
3        migrating at the same rate as mannose, fucose, fructose and  
4        galactose, acidic sugars migrating at the same rate as  
5        fucose and amine sugars migrating at the same rate as  
6        glucose and , fucose, and wherein the  
7        galactose:fucose:glucose:mannose is in a ratio of 1:2:3:6.

1        19. The plasma expander of claim 18, wherein the  
2        exopolysaccharide is produced by LAB-1 at ATCC No. PTA-2500.

1           20. The plasma expander of claim 18, wherein the  
2           exopolysaccharide is produced by the bacterium of claims 1-  
3           8.

1           21. The plasma expander of claim 18, further  
2           comprising cations in the following concentrations: sodium  
3           at 110 to 120 mEq/l, calcium at about 5 mEq/l, potassium 0  
4           to 3 mEq/l, and magnesium at 0 to 0.9 mEq/l.

1           22. The plasma expander of claim 18, further  
2           comprising at least one buffer and a nutrient, and  
3           optionally, vitamin K and optionally, human serum albumin.

1           23. A composition, which inhibits the growth and  
2           development of the bacterium of claims 1-8.

1           24. The composition of claim 23, which comprises  
2           propionic acid.

3           25. The composition of claim 23, which comprises a  
4           derivative of propionic acid.

1           26. The composition of claim 23, which comprises a  
2           compound with a chemical structure or backbone related to  
3           propionic acid.

1           27. The composition of claim 23, which comprises 2-(4-  
2           isobutylphenyl)-propionic acid.

1           28. A composition, which inhibits the biofilm  
2           production of the bacterium of claims 1-8.

1           29. The composition of claim 28, which comprises  
2           propionic acid.

1           30. The composition of claim 28, which comprises a  
2           derivative of propionic acid.

1           31. The composition of claim 28, which comprises a  
2           compound with a chemical structure or backbone related to  
3           propionic acid.

1           32. The composition of claim 28, which comprises 2-(4-  
2           isobutylphenyl)-propionic acid.

1           33. A composition, which inhibits the growth and  
2   development of a mucoid organism.

1           34. The composition of claim 33, which comprises  
2   propionic acid.

1           35. The composition of claim 33, which comprises a  
2   derivative of propionic acid.

1           36. The composition of claim 33, which comprises a  
2   compound with a chemical structure or backbone related to  
3   propionic acid.

1           37. The composition of claim 33, which comprises 2-(4-  
2   isobutylphenyl)-propionic acid.

1           38. A composition, which inhibits the biofilm  
2   production of a mucoid organism.

3           39. The composition of claim 38, which comprises  
4   propionic acid.

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1           40. The composition of claim 38, which comprises a  
2 derivative of propionic acid.

1           41. The composition of claim 38, which comprises a  
2 compound with a chemical structure or backbone related to  
3 propionic acid.

1           42. The composition of claim 38, which comprises 2-(4-  
2 isobutylphenyl)-propionic acid.

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